EX PARTE OR LATE FILED

UTC
UTILITIES
TELECOMMUNICATIONS
COUNCIL

ELECTRIC • GAS • WATER • STEAM
(202) 872-0030
FAX (202) 872-1331
Direct Dial 202-872-1264
E-mail: J.SHELDON@GENIE.GEIS.COM

DOCKET FILE COPY ORIGINAL

August 12, 1994

AUG 12 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, D.C. 20554

Ex Parte

Re: PR Docket No. 93-61

Dear Mr. Caton:

The following comments are offered by the Utilities Telecommunications Council (UTC) in response to the Commission staff's informal request for additional comment in the above-referenced proceeding on the allocation of the 902-928 MHz band for Automatic Vehicle Monitoring (AVM) systems. UTC has been invited to comment on possible ways of segmenting the 902-928 MHz band and technical and operational restrictions that would permit sharing of this band by AVM and unlicensed devices operated pursuant to Part 15 of the Commission's Rules.

The Suggested Band Plan

UTC understands that a suggestion has been made to segment the 902-928 MHz band in the following manner:

Frequency (MHz)	Allocation
902-904	Non-multilateration AVM
904-910	Multilateration AVM
910-920	Non-multilateration AVM
920-926	Multilateration AVM
926-928	Non-multilateration AVM

Part 15 devices would be permitted to operate throughout the 902-928 MHz band under the general non-interference conditions specified at Section 15.5. However, in the 904-910 and 920-926 MHz bands, Part 15 devices would be deemed not to cause harmful interference to multilateration AVM systems if several conditions are met: (1) the Part 15 device is used indoors, or at an antenna height no greater than 5 meters above ground if the device is located

No. of Copies rec'd 0+1
List ABCDE

outdoors; (2) the Part 15 device complies with the new restrictions on directional antenna gain specified at Section 15.247(b); and (3) the device is not a field disturbance sensor operating under Section 15.245.

UTC further understands that under a variation of this plan, multilateration systems would also be permitted to operate in the 910-920 MHz band, but would not be permitted to allege harmful interference from any Part 15 devices operating in this band segment.

UTC appreciates the opportunity to comment on this proposal. In its initial Comments in this proceeding, UTC noted the significant use being made of the 902-928 MHz band by telemetry, automatic meter reading (AMR), and related distribution automation systems. UTC suggested that allocation of this band to AVM might be accomplished through establishment of separate bands for wideband AVM, narrowband AVM and for Part 15 services. The current proposal elaborates on this concept, but suffers from a few significant deficiencies.

Interference into Part 15 Devices

First, the proposal does not address potential interference from AVM systems into Part 15 devices. With literally millions of devices currently operating in the marketplace, there must be some assurance that these devices - many supporting critical utility operations - will not be unduly disrupted by higher power AVM signals. For this reason, UTC recommends against the authorization of wideband AVM "forward" or "outbound" links in this band.

To the extent such forward links are required, it has been suggested that these could be located at the upper end of the band; for example, in the 927-928 MHz band. UTC notes, however, that the adjacent 928-929 MHz band is allocated for use in remote transmit stations of Multiple Address Systems (MAS) under Part 94. There have been instances of interference from high power paging operations at 929 MHz into adjacent band MAS systems. UTC therefore urges caution in authorizing high-power AVM transmit facilities in this adjacent spectrum in order to avoid disruption to licensed MAS facilities used by utilities, pipelines, alarm companies and others for control purposes and for relay of critical data.

Likewise, UTC recommends adoption of power limits and duty cycle limits for the "reverse" or "inbound" links in

order to minimize the possibility of interference to Part 15 devices. UTC understands that these essentially mobile operations would be wideband transmissions, and would pose a significant threat of interference to lower power Part 15 devices. Power limits and duty cycles on the reverse links would be reasonable means of mitigating this interference potential.

Threshold Criteria for Part 15 Protection

UTC disagrees with two of the threshold criteria for determining whether a Part 15 device is causing harmful interference to a licensed AVM system; namely, (1) the location and height of the Part 15 antenna, and (2) directional gain of the Part 15 antenna.

As UTC has argued in the context of unlicensed Personal Communications Service (PCS) devices, it is simply unrealistic to attempt to limit the deployment or relocation of unlicensed Part 15 devices.[1/] By their very nature, unlicensed devices are intended to be used without frequency coordination and without the restrictions typically attendant to licensed radio systems.

Even though the proposed limitations on antenna height and antenna gain would only be "thresholds" which would insulate a Part 15 device from any allegations of "harmful interference," in practice they would constitute de facto restrictions on the deployment of these devices. Given the multiplicity of such devices currently in the field, and the millions likely to be deployed over the next few years, any interference disputes between AVM systems and the users of Part 15 devices will be complicated enough without also having to determine whether a given device complies with the "threshold" criteria or not. Placing such restrictions on Part 15 devices would reduce the flexibility otherwise inherent in the Part 15 concept, and would have a detrimental impact on many Part 15 services, including those used by utilities.

Protection for Part 15 Devices

As noted repeatedly in this docket by many Part 15 manufacturers, users and user groups, there are literally millions of Part 15 devices in the field supporting many

---

[1/] See, e.g., Comments and Reply Comments of UTC in GEN Docket No. 90-314.

diverse, as well as critical, applications. Although this point has not yet been addressed in this docket, the Commission recently addressed this point in connection with the proposed reallocation of Federal government spectrum.[2/] In discussing the proposed reallocation of the 2402-2417 MHz band, the Commission noted that this is part of the 2400-2483.5 MHz band which is heavily used by Part 15 devices similar to those in the 902-928 MHz band. In recommending against the reallocation of this Part 15 spectrum to a licensed radio service, the Commission stated:

> Despite the noise in this band [the 2402-2417 MHz band], manufacturers developing equipment operating under Part 15 of our Rules have begun to use this band successfully. In 1990 we encouraged development of advanced spread spectrum devices in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. Today there are literally millions of Part 15 devices operating the 902-928 MHz band, including cordless phones, wireless alarm systems, computer local area networks, automated meter reading systems, anti-shoplifting systems, inventory control systems, and automatic vehicle identification systems. Although the 2400-2483.5 MHz band is not as heavily used as the 902-928 MHz band, there has recently been substantial development of, and investment in, equipment using this band. These include local area networks, wireless intercom systems, and cordless phones. It is unlikely that a licensed service would be able to share this band with these devices, which can operate with up to one watt of transmitter output power under Part 15 of our Rules. Accordingly, reallocation of this band would jeopardize the significant private sector investment already made in developing new technologies operating under Part 15.

Report at paragraph 39 (footnote omitted).

UTC concurs with the Commission's assessment that allocation of the 2402-2417 MHz band to a licensed service would be difficult, and with its assessment that the 902-928 MHz band is even more heavily used by Part 15 devices than the 2400 MHz band. Given the Commission's just-

---

[2/] Report to Ronald H. Brown, Secretary, U.S. Department of Commerce, Regarding the Preliminary Spectrum Reallocation Report, FCC 94-213, released August 9, 1994.

announced policy with respect to the importance of the Part 15 devices in these bands, and the impracticality of allocating these bands to licensed radio services, UTC urges the Commission to promptly terminate the present proceeding. In the alternative, the Commission must only accommodate AVM in the 902-928 MHz band if sufficient restrictions can be imposed on AVM operations as to adequately mitigate the potential for interference to or from Part 15 devices.

If there are any questions concerning these comments, please communicate directly with the undersigned.

Very truly yours,

Jeffrey L. Sheldon
General Counsel

cc: Thomas P. Stanley, FCC-OET
Richard Engelman, FCC-OET
Richard M. Smith, FCC-FOB
Ralph A. Haller, FCC-PRB
Beverly G. Baker, FCC-PRB